

The George Washington University Oral History Project
Interview with Tom Deen
Conducted on December 1, 1999 by Zachary Schrag

ZS: Zachary Schrag is interviewing Mr. Tom Deen. It is December 1st, 1999, around 10:15 in the morning. We're at his home in Stevensville, Maryland. Just to go back to a little of what you were saying before on the tape, you went to Yale, which at that point, was Wilbur Smith connected to that?

TD: Yes, he was.

ZS: So was he one of your teachers?

TD: He was one of the professors, yeah. He was beginning his consulting practice and had an office there in New Haven, but he would come over as kind of an adjunct professor and would lecture at the school.

ZS: Now, he did a lot of work in Washington, so it would be helpful to me if you could describe his position within the profession?

TD: Well, Wilbur Smith was one of the gurus without a doubt, and historically, as a very prominent figure. This Yale program was one of the early transportation efforts, which is why I went there, and he was associated with it. He also set up one of the earliest traffic engineering and transportation planning firms that specialized in that area. And then that firm grew in importance and prominence and worked all around the world, still exists,

and in his name, and he was in the professional societies as our colleague was chairman of the executive committee of the Transportation Research Board for a while. I think he may have been president at the Institute of Transportation Engineers, so he was a well-known and highly respected figure. He's a member of the National Academy of Engineering.

ZS: What was the curriculum for learning to do transportation planning?

TD: Well, at that time the Yale program was more dedicated to traffic operations. The transportation planning thing was really just beginning to emerge and mostly the curriculum had to do with – everybody who went there had engineering degrees and so it was an emphasis on statistical measures and operational procedures and municipal interactions and governance and that sort of thing, and interaction with planning agencies. So, that was mostly what that was about.

Now, a lot of the people that got out of that program, though, eventually moved into the planning side of it more because planning thing was coming in and they were the only people around who supposedly knew anything about transportation in urban areas.

ZS: So what's the distinction between operations and planning?

TD: Well, operations has to do with the operation of the street system, the design, the detailed design of the street system, the signal controls, the one-way streets, the capacity of being

able to calculate the capacity – micro planning, like the effect, if you're going to build a shopping center, how much traffic will be generated and what's that going to do the street system, what you're going to have to do in terms of changing the design of intersections and street openings and signals and that sort of thing. So, it's equivalent to operation in the transit system, which is a day-to-day movement of vehicles and handling of passengers and that sort of thing. The same thing with traffic engineering has to do with pedestrian movements and with vehicular movements and the problem of loading and unloading vehicles on the streets, and finding space and how much space you need, and how you design it and that sort of thing.

ZS: So planning would then be the massive capital addition, such as freeways and trying to figure out where those would go?

TD: Yeah, I'd say so. You could probably say planning, micro planning, is the planning of individual facilities, individual new pieces of traffic, just traffic generators, airports or shopping centers or arenas, or even parking facilities in the existing downtown. But then you move up macro planning for an urban area. It would be the problem of looking out to the future, usually a twenty-year time horizon, where land is going to be developed, what's going to be an employment generator, what's going to be residential, and what kind of traffic will be generated and what kind of facilities will be needed.

ZS: When you graduated from Yale in 1956, this was not being done you said.

TD: Well, I believe it was the '56 law or shortly thereafter required, in order to get this interstate money in an urban area, you had to demonstrate that you had an urban plan where you considered at least twenty years in the future where land was going to be developed and that the freeway system was appropriately related to it. And so that required planning. That was a standards requirement for transportation planning nationwide.

And at the time, as I say, in my own case I came into Nashville as the assistant city traffic engineer. We had for the first time interconnected traffic signals we were hooking together, and again, people were buying cars at a rapid pace and new shopping centers were being developed in a growing community like Nashville. Although it's only a medium size city, it was happening across the country. Railroads were going down, trucking was going up, airports were going up out in the outlying areas, so a whole lot was happening and the cities were concerned because oftentimes the states and the state highway department, although this varied between states in many cases they didn't accept any jurisdiction within the city and so the cities were left hanging on as best they could, and the mayors were pushing to try to get some help from the state.

Simultaneously, of course, the interstate highway system, which had its antecedents way back even before the war, as you know, was now coming to fruition. The '56 highway act included the funding for it. And so I came out of Yale simultaneously with all that going on. I hadn't been in the city more than about a year till these requirements to begin to think about planning began to emerge, because of the interstate highway. And since I

was the only one that appeared to know anything about the subject they made me director of something called the National Metropolitan Area Transportation Study, which required the city to link up with the county, because I mentioned already the suburbs were exploding. Long before the interstate, the suburbs were exploding outside the city limits, and there were two or three other incorporated cities outside of the City of Nashville area and it required me to go out and enlist all these people into a comprehensive planning effort because that was required.

Then also, it's common sense. You could look at the map, you could see that you couldn't plan for this jurisdiction; I mean the traffic knows no boundaries, so I went out and hustled the state and got all the – and within the city it was not just a single – you had many players of the game within the city. You had the Public Works Department, you had the Parking Commission in that case, and you had the Traffic Engineering Department, and you had the planning, physical land use planning. There was a regional group working on that. So there were a lot of players that you had to bring in around the table and organize them.

And while I look back on it I had almost no idea what I was doing, I at least knew two things more than anybody else and was therefore able to push ahead and I was going all across the country for that matter. Simultaneously, the use of computers was beginning to come in, and I think the Chicago area transportation study had pioneered, with a fellow name of Douglas Carol, a name that you will run into if you're interested in this history of transportation planning. He ran something called the Chicago Area Transportation

Study and did pioneering work in pulling together economics and regional geography and land use and development and transportation, putting it all into a computer and able to test alternative hypotheses.

He would say well, if we go here, what effect will that have on transportation? And if your objectives are trying to, say, have as many people remain on the transit system as possible you could speculate a bit about whether we put a transit line here or we put a transit line there, a road there, build up the community there and so on. For the first time you were able to play these what-if scenarios and test alternatives, and quantitatively test them.

ZS: What was it like before that?

TD: Well, back before the war the first efforts to do – and this is before my time so I think I know what I’m talking about but you better check me on this – but I know that the first efforts to try and get an idea of where traffic movement was taking place, you could make counts on the streets, you could go out and count the number of cars on a street. That told you nothing about where these people were coming from or where they were going. And to have some idea of the origins and destinations of travelers and be able to get some idea of who these people were that were traveling and the relationship between their income and the household size and the type of work they did, and their age or whatever, and the amount of travel they do, there was no basis for that until the

beginnings of what we call origin and destination studies, or O&D studies on a comprehensive basis.

Those were beginning to be done before the war. The Bureau of Public Roads, which was the predecessor to the Federal Highway Administration, was beginning to develop techniques for doing that. They called it a home interview survey, and you'd go in and do a sample, one out of twenty or something of every household, the statistical theory, if you do it randomly you'll get a good idea of what's going on out there.

So those studies were beginning to be available. There were a number of them that had been done. In fact, it was the basis for the Bartholomew study that was used. In I think the 1948 O&D study had been available, and then they did another one in '55, and they were able to compare those two, and there's subsequently been a number of others done in this area.

And so what they did is they could take these data that you get from these home interview surveys and expand them to the full population statistically, and you code the trips. You divide up the area into traffic zones and you code how many go from A to B and A to C and all the interzonal movements, we call them. Then what you could do is say okay, if the area – in a most crude form of what they would do is they would say if you've got a million trips out of that survey and we're going to grow by 20 percent, we'll just grow them all by 20 percent, multiply by 1.2.

That was terribly crude because some areas are growing, some areas aren't, so what they would do is they would get a growth factor for every zone. Some zones are going to grow by 40 percent; others are not going to grow at all. So you'd grow something called the fire method, which was a statistical procedure that you would take each of these interzone movements and expand them by these growth rates, which didn't allow for anything. Like if you built a new bridge, like out here at Cabin John between Maryland and Virginia, which it had no travel across there hardly at all because there's no way to do it, you put that in and you're going to suddenly get travel that you wouldn't have had. And so this so-called growth expansion rate procedure wouldn't handle that sort of thing.

And so, a fellow by the name of Alan Voorhees who still lives out here in suburban Virginia, lives in Alexandria as a matter of fact, developed a procedure called the gravity model which would enable you to synthesize a new travel pattern with any new land use and transportation. It would take into account the availability of transportation where it didn't exist before.

So, all of this was in ferment, you see, it was an exciting time. I mean, these were pretty radically new – the availability of radically new procedures, and the computer enabled you to manipulate these things. Before the computer you had the statistical. You could do these gravity models by hand, but if you think about it you had 200 zones, 200 times 200, you're getting out of scale what you can do by hand. So they'd have to make the zones so big, most of the travel was within the zone and so it was pretty crude.

The theories were beginning to emerge, but the ability to manipulate them weren't there, and so the advent of the computer permitted you to be able to take these, and furthermore to assign them to the transportation network. After you enter all the movements, the computer then could say here's how they would fall on a transportation network, so you could test the network. And then shortly after that they began to say well, what would happen if we build this? This area will grow more. So they began to develop land use models that would be reactive to the transportation system, so you could get this whole iterative thing and move ahead recursively over time. It got to be pretty elaborate, given the computer facilities you had at that time, and it almost would overwhelm you.

ZS: There were certainly accusations as these studies were done in Washington that the statisticians were always fudging data, that they'd pull out a few cards when it was card computers or when they went to electronic computers, that they would find new ways to manipulate the data to not necessarily be dishonest, but to apply what they felt was common sense to make the data more realistic. Do you have any feeling about how objective this process was?

TD: Well, I think it's true that statistically when you're only doing – I've forgotten what the sample rates were, but they weren't very high and one of the things we would do is when you do an origin/destination study – and you can't interview everybody. The census can't find everybody and so there's no way to do a perfectly random – so the sampling process itself is difficult to apply in this kind of environment, but it's the best you can do, and it's far better than nothing.

And so what you would do is, for example, you would get the number of interzonal trips and you would look at how many of those trips go across the Potomac River, for example, and just add them all up. And then you go out and actually count the travel on the bridges and say how does this compare? Well, you always find there's somewhat of a variance. It's never perfect, and you may find that you're off by 5 percent or 8 percent or something like that. So then you try to correct, because you know you got a 100 percent count on the bridges. You know that's a fact, and so you've got to adjust your data to fit the reality.

So, there were correction factors applied, but I myself never saw any evidence and saw any reason why anybody would fudge them. The use of fudging sounds like you're deliberately trying to distort the data.

ZS: That was the accusation. I'm not saying that happened, but certainly there were those who believed that the political agenda influenced the raw numbers of traffic estimates, and I'm just talking about the Washington experience.

TD: Well, I think those accusations are made. If people don't like the results, that's the way you attack the system is to say well, there's somebody who's manipulating the data, and sometimes I guess it's true but I never saw it. I don't believe it was true in this case. I don't think the planners who were doing these data, starting with 1960 when I got here, and I'll talk about institutionally how that was done. I was on the transit side, and the

highway planners were my counterparts and we were trying to develop a common set of numbers. And we'd get into arguments sometimes about things, but those were arguments – I don't think any side was trying to butcher up the numbers. We realized the political consequences of some of the numbers that we were generating, but we were trying to generate the best numbers we could.

ZS: Was there that sort of controversy in Nashville as well? Were the numbers challenged?

TD: No. Nashville in fact – it's an interesting case, Nashville. Nashville had a huge interstate system for a city of its size, just absolutely huge. It turns out there were I think six legs of the interstate system that converged on Nashville, and to tie all this together in a city that size took a lot of roads.

You would have thought that would have been more opposition to it, but I don't think there was, and I left before they were implementing it all. But I'll go back there today and what we had on the plan, it's there. They built all of it without any – and it cut right through the city in big time ways.

And at the time we had the idea, everybody had the idea, that part of this building of the interstate was an opportunity to clear up blighted parts of the city and that sort of thing, and we were quite insensitive at what went on inside those areas. Everybody knew. There was no controversy about that until you started doing it. Then there's been controversy erupted, but as far as the initial planning that controversy didn't show up too much.

ZS: So, the people involved in the plan were mostly appointed officials, in Nashville? Was there any sort of chance for the public to make its voice heard as you were doing the planning?

TD: Citizen participation, we went out to the talk shows and talked the rubber chicken circuit and talked to everybody that would listen to us. But everybody was kind of excited. They saw all this progress. I mean, there wasn't any dispute about it. The only dispute we heard was the transit people who were a private company, and they would come crying, look, you guys, you're going to kill us. Or, you ought to be subsidizing us. They weren't arguing you shouldn't build the roads, but they were saying you got to help us out and don't just let us hang out here or you're going to be in trouble if you do, and all that.

But in a city the size of Nashville, transit is not a significant issue. It perhaps was then, but it's certainly not now. So there wasn't much controversy at the time. I left Nashville, and I go back and visit there because my wife and I have a lot of family there. We go back there once or twice a year and I try to keep up with what's going on. I don't think they ever had a whole lot of controversy there, and many of the cities in America didn't but there were a lot where they did, of course. We know about those, and Washington was one of them.

I was surprised when I got to Washington. Well, the reason I did is because having done that exercise in Nashville as director of the transportation study, so few people have been doing that, that when they started cranking up to do the detail planning for the transit system, the National Capital Transportation Agency, the NCTA was formed. A fellow by the name of Bob Keith, who is somebody that you should meet and lives up in Princeton and I can give you his phone number and stuff before we leave today if you want, hired me. He had been the assistant director I believe in the Bartholomew Study.

ZS: I think he was director at the very end, I guess after Ken Hoover left.

TD: That's probably true. So, he moved there as initially director of planning, before there was even an administrator appointed, I believe. The agency had been established I guess by Congress before I ever got here, and set a federal administrative type, a director of administration I guess you'd call it, the guy who knows the government rules and from another government agency so he was employed. And then I believe Bob Keith went over, and Bob hired two people, me in forecasting and land use and transportation planning kinds of stuff, and fellow by the name of Howard Lyons, and now Howard may still be around here, too. Howard Lyons was the director of engineering.

So there were just the three professionals plus this director of administration, and this was in the same winter that Kennedy was inaugurated. He had just been elected. Eisenhower set this thing up I guess and then Kennedy was coming in, and when I came on board

there was Bob Keith, Howard Lyon, and I've forgotten the name of this administrative chap now.

ZS: Was that Vogel.

TD: No, Vogel hadn't been appointed yet. Am I right about that?

ZS: Well, Vogel was appointed under Eisenhower, but I haven't found anything that he actually did. I think it might have just been almost an honorary post for him.

TD: Well maybe Vogel did exist. He wasn't very active.

ZS: He was a District resident well connected to the Republican Party. I think it might have just been a patronage job, because I certainly haven't heard of him making any decisions.

TD: There were no decisions made, because look, I'm talking about arriving at an agency in which there were three or four people just now getting their desks arranged, and maybe Vogel was there. But the agency didn't do anything. It was just getting geared up, and here Kennedy was coming on board so what could he do? I presume that Kennedy probably – maybe he left Vogel in place, but he was a lame duck in the sense that he knew he was going to be replaced with the Democratic administration coming in so he just kind of limped along. I guess that does fit. He probably was there.

We were down on Lafayette Square, diagonally across from the White House in one of those old brownstone buildings. And so given that change in administration we kind of limped along until we got a new administrator, and of course Darwin was it, and I've forgotten when he was appointed. It must have been the spring of that year.

ZS: March I think, yeah.

TD: So Darwin would have been in for three or four months during which he had no staff, and he was a lame duck anyway so even if he had wanted to do something he couldn't have done much. And so, I got hired because I presume that I had some expertise in this stuff and I kind of played with computers and that kind of stuff.

ZS: Did Keith find you or did you find Keith?

TD: Well, I'd met Keith in the process of doing the Nashville exercise. One of the things I did was went out and made a trip around to two or three or four places I knew were doing this new advanced work and planning. One of them, I think I went to San Diego where a fellow by the name of Ed Hall was doing a land use transportation planning exercise, and I went to Washington with the mayor here and met Bob Keith then I think, and met Al Voorhees, and met a number of people that subsequently were big people in the transportation business and got to know a little bit myself that way.

My last year in Nashville I had left the city and gone with IBM Corporation, because in the process, the whole computer thing was such a hot thing and kind of learned just a little bit about computers in the transportation planning thing, and so it all looked pretty glamorous and I went over to IBM and spent a year, mostly they spent training me. And what we were doing was putting in the first computers in businesses. Businesses had not had computers. They had had punch card systems, and now we were replacing these things with computers for the first time.

But I didn't like the big corporate life and so Bob and I started talking of the opportunity to get back into what I liked to do, and the whole idea of a new metro and all that was pretty exciting. It's a hard thing to leave Nashville. It was the hardest decision I ever had to make because I'd just built a house there and I had two little girls and I'd just gotten my engineering license. It was a hard decision, but it was the best thing I ever did. So that's how that happened.

I'd met him and he knew of my work down there. And so I came up here, and of course when Darwin Stolzenbach was appointed and he took over, because he had a long history and he'd been an advocate for transit, and I guess opposed to some of the findings in the Mass Transit Study, as you pointed out; he felt that transit ought to be a more economic component and as a substitute for roads, and I found that to be pretty offensive. I'd come out of an environment where people would wave flags when we talked about we're going to build roads through here. They thought that was wonderful. And the idea was you come up here and you're going to throw these roads out – and I was working for an

agency that did was kind of a hard thing for me to stomach. It was suddenly like I'd changed religions or something.

And it was difficult because, the truth be told, trying to hold back the automobile is a tough job. And you're looking at a failure. I spent thirty or forty years of my life working around the world and fighting the automobile, in some ways, I mean I don't mean fighting it as a religion, but trying to fulfill hopes that people had of trying to retain some semblance of whatever it is they're trying to retain in the face of what the automobile, and what people do privately in their individual decisions. And Washington was the first experience at that, and because of the visibility that I got in that effort and building one of the first big transit systems after the war, in the nation's capital, and so big and so prominent and all that, and not eliminating a bunch of roads, I mean I took on a different cast myself and it kind of thrust me into areas that I wouldn't otherwise have gotten into in my life.

And when I went into the consulting business I was a guru in transit because of the experience here in Washington and was able to get contracts, and we built transit systems in Sao Paulo and Caracas and Hong Kong and all over the world, in part because of the fact that I became known as part of this Washington scheme.

ZS: So was this almost accidental, this conversion? That is, when you showed up in Washington did you expect that this would be a major change from thinking of highways as something that were just a positive good to something to be challenged or eliminated,

or was this a gradual process? You talked about it as almost religious conversion. How did that happen, from highways to transit?

TD: Well, I don't want to overdo it, but it happened because Darwin Stolzenbach came to administrate the agency, because up to that point there was none of this. No one would have perceived those kinds of policies, and Darwin pursued them with such a vengeance, and he wasn't a very skillful politician and he got himself in a lot of trouble over it I think unnecessarily at times. As far as gradually, I didn't come to Washington expecting that because their agency was not in that mode at all until Stolzenbach arrived.

ZS: You more or less expected to build what was proposed in the MTS, which is a lot of highways and thirty-three lines of rail, does that sound about right?

TD: I probably didn't have a very good concept, but I certainly knew that the agency wasn't going to build any roads. That never was its job, but its job was to build a transit system. There were plenty of agencies out there already building the roads, each state had a highway department, and the District had one as well, so we knew that we weren't going to build any roads. And I didn't know about all the controversies about roads when I got here, or if there were that many controversies. Darwin and some of them challenged the 1959 study, but I didn't know anything about that, or if I did I've forgotten it.

But the agency became controversial and a lightning rod in a place where you knocked out roads after Darwin got there. And in fact, I was asked to try to justify it, because I

was developing the numbers upon which all this stuff rested. That was my job in the agency. I was not director of planning, and Bob Keith was director of planning initially but when Darwin came in he wanted his own people. I think he looked at Bob Keith as a little bit suspect, and certainly looked at me with suspect. He looked at all the members as being somewhat suspect I think

And certainly by the time he had gotten established I was already beginning to weave together this process of taking the numbers out of this origin/destination study data and developing some models, mathematical models that could be used. And the District highway department was already in the process because they were charged with this '56 highway act requirement in order to build these roads in the District. So they had a requirement to do planning and so they were building a process to do that. And so I linked into it, because the idea of producing two totally separate – firstly, this is costly stuff and it takes a lot of resources, and the idea of building two sets of numbers people thought well, that didn't make any sense.

And besides, the '56 law required it be a comprehensive transportation planning, not just highway planning. And so we built the first system of models, mathematical models and computer processes which would do comprehensive transportation planning in North America, I believe at least in the United States. They may have had one in Toronto, I'm not sure. And I remember reporting on it to the Transportation Research Board in 1962 or '3 and having five or six hundred people, professionals from all over the country

sitting there listening to this process we had where we could code in the system, transit here and highways here and all that.

In the next run we could take the transit line out and how much effect would that have on the road and all that sort of thing. No one had ever done that before and that was quite revolutionary, and everybody looked at it. They knew the numbers were going to be important to the political arguments that were coming out, and we were just kind of working behind the scenes putting all this together, but we were becoming more and more aware that the numbers we were producing had political consequences.

A fellow by the name of Lee Mertz, a name that you've probably heard about already, he did some historical work and his files are around somewhere. In fact, I think his files are out at George Mason. His papers are coded and indexed out there in the archives. He worked in his later years; he ultimately became associate administrator for planning for the Federal Highway Administration, and then when he retired he got into the historical side of things.

Lee, in fact, worked with Darwin when both of them had retired, and having been on opposite sides of the aisle in those early highway fights, he worked with Darwin to try to develop the history of – I think he worked on something on the history of the interstate system, as well as the history of the Metro. And those documents are around somewhere. A fellow that might know where to find those is Alan Pisarski, another name that you probably will want to meet because he was involved in the early planning as well.

But this whole thing of the way we did that in those days, I got to be good friends with Lee Mertz and he had a staff over in the District Highway Department of, I don't know, fifteen, ten or fifteen, twenty people, and I had a staff of ten or fifteen people, and working together to try to run these model runs in which I would bring forward the transit system that we wanted to code into the network, and he'd bring in the highway, and then we'd agree on the land use. We worked with the counties and the planning agencies to get agreements on what they expected in each of these traffic zones in terms of people and what incomes and what employment and all that sort of stuff. So, we'd have a common set of numbers that everybody could buy into, and then begin to run these numbers.

Well of course, what these models showed is what you find in real life, or what you hopefully would, and that is that it is awfully hard to build a system that will compete with the automobile. The automobile, and it has very little to do with irrational love affairs with cars, although people do love cars, some do, some don't, but people use them whether they love them or not. They do it for very rational reasons, and you don't have to study the human psyche to understand that unless you feel you have to study them and understand why they like high income instead of low income. If you accept that, you accept that they like to get places quicker instead of slower, and go when they want to and all the other things that go with it. And those models showed that.

And Darwin believed that the '59 study had been corrupted, that the numbers were being used, and so when I began to produce the results, said, "Hey, it's not that easy." He had a hard time, and he would send people – he hired a bunch of people that were old buddies of his; he was an economist in the government. I don't know who A. J. Goldenthal was. I mean, I knew him when he came to the agency, but he was an old friend of Darwin, he was a professional friend and he had a lot of respect for him, but to my knowledge A. J. Goldenthal didn't know anything about transportation. I guess he knew a lot about economics and he may have known something about geography, I don't really know what his background was.

And he hired Ed Seeger, who was a lawyer and looked at everything in terms of politics. He wasn't much interested in the physical aspects of things. And there was a Betty Golwasser, a nice lady that was an economist that he hired also, and I remember him sitting her down to try to get a handle on it. "What are these numbers, by God?" You know, it's complicated stuff if you've never fooled with it before. And she spent several weeks there going over it, and I remember she wrote a report to Darwin about what it was and she couldn't find that we were trying to jimmy up the numbers. She was at a loss to explain why some of these things were coming out the way they were.

But Darwin was crestfallen to find that if you build this rail system that you don't need to build any more roads, because it still showed the roads were just full of people. But he wanted to carry roads anyway, and I'm not saying that was wrong, I mean for a lot of other reasons, but on the other hand it was easier, looking at what's happened, part of the

reason you didn't need the roads because, again, we lost a lot of people. The theory was that if you build a transit system you're going to explode the population center, and we really believed it would. I thought it would.

And the projections were that – I think we were running 700,000 people in, 750, I've forgotten exactly what the population was in the District. We expected it to go up another hundred, 200,000, maybe be pushing a million people in the District. Didn't happen. And we're accused at this point in the state of the game, some of the environmental organizations argue that the reason you have all this suburban explosion is because you forecasted the suburbs to explode, and you forecast the center city to decrease. Well, that's just not true. We had it the other way around, but they didn't know what happened.

ZS: In the absence Stolzenbach's pressure, would you have redone the numbers from the 1959 plan, or were you trying to build on those? What was the relationship?

TD: Oh yeah, you would have redone those anyway because the highway – these targets are all moving targets. First of all, every five years or so you adjust the forecast of the growth of the area, or at least every ten years you did, and what's more, the plan itself, Darwin wanted to build a much more expansive system than they were talking about, and so you had to redo the numbers. And the highway program was a moving target, so you had to do new numbers.

ZS: What I'm trying to understand, I'm having some difficulty with this, is the relationship between the forecasts and the transit and road proposals. That is, if you read the 1959 plan, what they said they did, I don't know if it's the actual method or not, they said well, first we put in all the numbers to find out where the demand is, and then we put in roads to satisfy the demand.

That is numbers come first and then you plan the roads. What you're saying that Stolzenbach did is he said, well, let's plan out some transit routes and then figure out the numbers to see how many people would actually ride it. Of course it's integrative process to adapt one to the other, but was there a major reversal in how the planning was being done?

TD: Well, I don't think things are ever quite as simple as either one of those models, but there is some truth that early, back in the fifties and sixties, one of the things you did with these O&D surveys is you would plot them without reference to roads or transit or anything else. You just put up desire lines, and the width of the band shows how many people there are and you could see where major movements were taking place, and you could make some judgments where you needed some major facilities to go along with the desire lines, but that's pretty much been discarded now. People don't do that much anymore because they know that you can't build a road, or you can't build anything. The fight to get a right of way for anything, there's no disputing that if you can build around here you're lucky, let alone going straight where those desire lines are.

So, there's some truth that in '59 they probably looked at major desire lines and decided where they need some transit here and there. If you can't build a road, maybe you need roads and transit in some of these corridors. But also, as time moves on agencies that are charged with this planning get investments in certain concepts. They get a plan and they decide well, this one and this one and this one are a real high priority and they begin to move in that direction.

Now along comes a new planning agency, you can't ignore that so you start with some givens, at least some hypotheses you're going to test, at the very least. You don't start off with a blank screen every time you start a new planning exercise because institutions get investments in these concepts. By the time we were doing work the highway department had a lot of notions what it was willing to do, and they were already beginning to gear up for construction in some things.

And it wasn't just the District. Virginia and Maryland departments were also engaged in this thing and they had their priorities. And so you have all kinds of people that, if you're going to be real in that kind of planning environment, you take a lot of things into consideration. Part of the challenge of planning is to do something that's relevant. It's easy to do a plan, an idealized plan, and ignore everybody's concept, ignore all these powerful agencies that have their own agendas, and you can quickly find yourself marginalized. The goal of the technician is to have some impact on all this.

ZS: But when it came to rail transit you were using a blank slate essentially?

TD: Well yeah, the '59 plan, but yes, we tested a lot of alternatives. We did, we moved things. You're right that in terms of rail transit we were substantially – not with a blank slate because you already some rail lines. There was a trolley line going out to, where is it, Cabin John, and there were some rail underpasses in some of the circles, and you had commuter rail lines that you wanted to factor in, so you never have a totally blank slate. You certainly got the major corridors and where people live and all that stuff, all those factors, but as far as preconceived plan of rail transit, yes, we had a substantially blank slate, I think.

ZS: Did you ever get in a sort of serious fight with Stolzenbach about how the numbers were coming out?

TD: Well, I don't know there was a fight, but I know he wondered about – see, he came in after I had already established this alliance with the highway people and all that, and here I was working with these numbers and he came in and it was kind of a done deal. Well he didn't know about it, you know, what's all this? And he doesn't trust the numbers to start with, so he'd come down and we'd talk and he would ask probing questions, and he'd send people down so they could spend more time because he couldn't understand it. He was nervous.

And then when the numbers began to come out not always to his liking, why, then he was even more nervous. But it's hard to ignore numbers. If you can't find that they're

wrong, or you can't find – you know, he started looking. What are the land use assumptions? What did you assume about how much growth's going to – well, there it was, you know. And he'd pick at these numbers and they're hard to pick, because you can pick at the margin and all that and tweak them, but they're robust.

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ZS: But the 1962 report did suggest cancelling all these highways and putting in what was an extraordinarily ambitious transportation scheme for the early 1960s, only a few years after the 1956 Highway Act. Do you think that report's proposals were justified by the numbers that you generated?

TD: Well, I can't answer that no or yes. That's the great dilemma, and the dilemma's even greater, thing that's so amazing about transportation planning, you're asking me to put myself back in the position in those days, and I'm not even sure that you can make a compelling argument numbers wise that the Metro in Washington was a wise thing.

I think it is, on a subjective basis, and there's no doubt in my mind if you took a poll of people in this community, in the Washington area, they would vote for it hands down, but they didn't pay for it. And if they'd been asked to pay for it at that time, there's not much doubt in my mind they'd have said no. On the other hand, that's not a compelling argument as to whether it's good for them. I can set myself up and say they were wrong, they would have been wrong.

ZS: And the people in Nashville didn't pay for those highways either.

TD: Not directly. They paid into a pool of funds that paid for them out of their gas taxes and stuff. That's right, there wasn't the direct requirement that they vote on a referendum if they pay for those roads. On the other hand, they paid for legislators that put in gas taxes, and excise taxes and tire taxes and whatnot by and large were put into the trust fund and built the system.

What I'm saying is, and I've made this observation to my transportation planning professional friends, and we have a little group called the No-Name Group you might want to meet. It's a non-organization that meets once a month, about anywhere from ten to fifteen or twenty people meet just to sit around and talk about these kinds of issues. And I've made the statement a number of times, and I'm identified amongst them, because they're more highway type people, as a metro kind of guy and transit kind of guy, that it's a tough enough job to decide whether these investments are wise twenty or thirty years after the fact, and to ask then before the fact, when half the stuff, that your assumptions turned out to be wrong, like where the population is going to go, it's impossible.

There's no doubt in my mind that the Metro has enabled – what we had coming down K Street was something like, as I recall, like a hundred buses an hour or something and it was a madhouse down K Street with those buses, and buses all over the place. It was smelly and it was unattractive in many respects, and we got a much nicer city downtown

as a result of the Metro and certainly in a lot of other ways as well. It's permitted some growth in the center, in Rosslyn and Crystal City and all these other places, they're all good things.

So, I think myself that it was a good thing on a subjective basis, but on the basis of the numbers, we carried almost as many people on the buses as we do in a metro. I don't know that we'd still be carrying them if we hadn't built the Metro. We might not have, but we probably wouldn't have had the development; we'd have had more people who have left the center, even employers who probably have left the center, but those are speculative things. I can't be sure of that. I can't prove it with any hard numbers.

So getting back to your question, this transportation planning is a mixture of subjective judgments about things you want to have happen, and what you can in fact do. And there are some hard things, when you talk about what you can and can't do, you've got political constraints and the realities of public attitudes and all that stuff, but you've also got hard engineering facts. You can't build a subway tunnel for \$5,000 a mile. I mean, that's fact; you're not going to do that. And you can't carry 50,000 people an hour on a highway lane.

There are some numbers that hem you in, and there's some numbers that are a little foggier but still pretty hard about the number of trips people take and where they're going to go if you assume the land use is right and all that kind of stuff. And so, they hem you in. What would happen is you'd get these numbers out, and you'd assume you're going

to build this big huge transit system and it's going to suck all the people off the roads, and you run the thing and gee, there's still a hell of a lot of people on the roads and you start looking at why that is. You can't get away from it. And lo and behold, they are. The roads are full of people.

ZS: I guess my question then is do you think Stolzenbach felt hemmed in by these numbers?

TD: Yeah. Oh, I think ultimately he did somewhat. It didn't keep him. He'd still, despite the fact that it showed that a lot of people would be using the Three Sisters Bridge, for instance, which was one of the big disputes, he still said, "Well, we're going to knock it out anyway." And then he would talk about how you were going to make some improvements to the local street system to try to offset it, and the numbers would show that you're going to have congestion when you got through.

That's where the political process takes over. You get up in front – and a politician never says, "Well, we're just going to have congestion." No, he wouldn't say that. He'd get up and say, "Well, we solved the problem by doing this." In fact, we hadn't solved the problem doing this, but maybe it was all right to leave the congestion. It's like right now, half the political debates about Social Security or whatever, no one gets up and says you got to let people get older before they retire because the system's going to go broke. You get up and fuzz around and say other things.

So, I think Darwin was somewhat chastened by the numbers, but he believed strongly, subjectively, that these were important things to do and so he did them anyway, as best he could, and then he would leave me to fight them. I remember one day, a day I'll never forget, in which he and the – at that time the District had a commission form of government in which there was the chief of the Corps of Engineers and a couple of other people. As I recall, we had a meeting in which the Corps of Engineers, the engineering general that handled all the engineering and physical planning thing, he came over with the director of the Highway Department, and Darwin and I and half a dozen other people were sitting around the table.

And using a common set of numbers, how can you, Darwin, he was saying, how can you knock that road out? Look at the numbers that you produced along with us and it shows you're going to have 50,000 people a day using that road. If you take them off and put them over on this street it's going to overwhelm it, and you can't get them on your transit system apparently, or you'd have had them on there. How do you explain that? And Darwin would turn to me and say, how do you explain that? (Laughter.) I knew it was coming so I had some answers, but that was an example of the numbers working on both – they had an influence. They weren't necessarily dominant, but they had an influence.

ZS: So, if you had been in Stolzenbach's seat you might have said well, okay, we'll build a road.

TD: If the numbers, meaning would there be people using the road and would it take traffic off the local streets and that kind of stuff, if those were your criteria, yeah, you would have built a road. But if you had bought a subjective criteria about the nature of the city and that kind of stuff you probably won't. And it's worked out all right, because you lost the population. (Laughter.)

ZS: There's this notion throughout this whole story, it seems, that people like Stolzenbach believed that war was too important to leave to the generals, and transportation planning was too important to leave to the engineers.

TD: There may some truth to that. You left it to the economists instead.

ZS: (Laughter.) But it sounds like you were willing to accept that in some ways someone like Bartholomew rejected those notions. He believed that the experts do the transportation planning, and the politicians should vote for it, if I understand it.

TD: Well, yeah, I guess so, but political events, for instance the notion of killing a road, which was almost sacrilege at that time, to me and many of the professionals, became much simpler in yet later years because we saw that we were killing roads all over the place. And around the nation you did that because there were some excesses. Clearly it became evident there had been excesses, like I remember going to Hawaii once when I was in the consulting business and we had a project to try to see if we could do a rail transit in Honolulu. I looked at the highway plans and they'd never come out public but they had

been playing with building a road out onto Waikiki Beach, and the one down in Embarcadero in San Francisco, and some other places where they were clearly in excess.

And unfortunately at the time, and I realized this at the time and it was one of the things that permitted me to be a little more loose about it, was that there was all this money for highways that were coming down this pipe, this stove pipe from Washington, 90 percent money to build a road, and there was nothing for transit. This was before the Federal Transit Agency and that sort of thing. That was clearly, in a city like Washington, a larger city – Nashville, you know, even then it would have been helpful to have had something, but I realized when we were doing the work in Nashville, this thing is tilted. And it's nobody's fault. I mean, it wasn't as though there was a conspiracy. It was just the way events played out in a democratic society.

We'd had this huge battle, we finally got the feds into building a massive highway system, but then as soon as you get that you begin to do the work in the urban areas and you're going to say wait a minute here. We need some transit if we're going to keep this stuff, keep the city and do some other things you want to do, and there's no money for that. And so that tilted things for quite a time and institutional momentum is hard to push against that kind of thing.

And I remember going over to the Federal Highway Administration, Bureau of Roads then, and they were just down the street from me and I had gotten to know them pretty well over the years, and I said, you know, we're coming out with these numbers and the

numbers, yes, show that you still need a lot of these roads, but there are other objectives and we can squeeze by if we cram and squeeze and build a system and do this and that, and they disagreed but they were civil about it and behind the scenes.

Something else I was going to tell you there. Those were really exciting days in the sense that we were pioneering new ground professionally. Everybody was interested in what we were doing. It had enormous political consequences. The stuff we did was in the front pages of the paper from time to time. You felt like the work you were doing was having an impact.

I think the other thing that surprised Darwin, and I would hate to put words in his mouth, but was the discovery that you couldn't pay for more of the system out of the fare box. One of the things that we had to do, frankly, to get the numbers as high as they were is we had to make some assumptions about parking cost. Transit riding is very sensitive to parking cost, and one of the reasons the Metro is so much more effective to central downtown areas is because it costs a lot of money to park down there for a lot of people. Even if it isn't any faster, and maybe it's even a bit slower, you can put up with that if you can save a lot of money in your parking cost. Of course you're going to have to take money out of your pocket to put in the transit slot. You got to trade that off with something.

And going out to suburban areas, that parking cost factor is never there and that's one of the reasons that Metro is not very effective for suburban areas, and why I'm not very

optimistic that a rail line to Dulles is going to make a hell of a lot of difference, although we probably will do it and, maybe we should do it. Because our other alternatives are so bleak we go and do these things, but don't look for any utopia to occur because the models show it isn't going to help much, and I think everything we've ever done in the real world shows it isn't going to help much.

One of the things we did then, during this exercise, was we had to make some assumptions about what's going to happen to parking cost, and that was a big, big discussion within the agency, within NCTA. And once we discovered it was very sensitive to that, as it is to transit fares, if you put the transit fares way up that factors into the model and ridership goes down. See, Darwin wants the whole thing to pay itself off. Well, but if you can't get any riders, what do you do? Well, one thing you do is assume parking costs are going to go up. That permits you to have a reasonable transit fare and still get the rider.

We were attacked on that by the highway agency, and in fact they did a sensitivity analysis after we got through the whole modeling exercise and they played with what happens if you put in additional transit lines, and what happens if you change parking costs and it turns out the thing's more sensitive to the parking costs than it is to the transit lines? Parking costs are a hard thing to get at, because it's fairly easy to get around and inquire at all the parking garages what's the charge of parking. That doesn't tell you a whole lot, because the question is, it's not how much they're charging; it's who's paying.

And a lot of times the employer is paying those parking costs, so if it doesn't hit the consumer, he's not influenced in his decisions about it.

So, that was one of the fuzzy areas that a lot of disputes took place around the numbers, and which is really quite impossible. It's not something you can control exactly. Yes, you theoretically could by some legislative mandate, but politically that's not possible, and mostly these are private enterprises. And yes, they charge more when there's higher demand, and they charge more when there's high land costs and higher construction costs and all that kind of stuff, but you can't go in there and tell them what to do and say, well, you're kind of estimating some future economic variable that you don't have much handle on.

ZS: Was there any time, at your time at the agency, when your relationship with the highway departments changed? It seems to me that Stolzenbach really got in hot water with them when he first proposed cancelling Three Sisters Bridge at the end of 1961, and after that they sort of tagged him as the enemy and he was fine with that because that's how he thought of himself.

TD: Well, he had his constituency, which was growing. He thought he was on the side of the angels and it was a growing constituency that was backing him.

ZS: But did that affect your relationship?

TD: You mean my relationship with the highway department? Not too much, although I was worried about it, to be honest with you. But it didn't because everybody knew the numbers were honest. After they picked at the numbers and picked at the numbers, the numbers were the best, and the issue wasn't as much what the numbers were, it was the interpretation you made of the numbers and what you did about it.

And as I said, Darwin had looked at a set of numbers, and if you look purely on the basis of ridership and usage of the road you'd say, well it's seems to me it's hard to argue you shouldn't have the road. Darwin would knock it out anyway, and say that other factors were more important and that he would get it squeezed onto, you know, he'd make some other adjustment or something to the local system to do it. And there would be a little more congestion, but that was it.

ZS: I'd like to move on to some of the specific planning routing engineering proposals that were floating around the agency. If you have this blank slate, as we talked before, how do you decide where transit should go?

TD: Well, let's just take downtown. I mean, you can look at some of the exercises. They're just techniques you use. For instance, you plot dot maps of employees and one dot for every hundred employees or something we did with your surveys of where people were located and you plot them around and now you see that they are concentrated in this and this area, and you begin to say hey, if we came through here – you're trying to serve as

many people as you can with as few miles as you can, trying to keep the cost down and ridership up.

And there's a lot of different configurations that you could use to get through downtown and do that, but then you also have got to say well, you do the same thing further out.

You can do these dot maps and see where people live. You want to get as close to as many people as you can as cheaply as you can.

You also look at where rights of way can be obtained, because broadly speaking, if it costs \$1 to build a mile of tracks on the surface, it costs \$5 to put it up in the air, and it costs \$10 to put it underground, so you want to build as many on the surface as you can.

Where can you do that? Well, you look for the first thing rail line way, existing rights of way, like railroads that they may not be using, or there may be a little more than you need. Or even if you have to buy a little bit, rail rights of way of existing railroads already break up the community so there's not as many crossings. You don't have to build any bridges. There's not as much disruption if you do that to take a little land along it.

So, you look at places where you can find rights of way and you do that when you're doing highway planning or rail planning, whatever you're doing. And the game is constantly one of trying to keep the costs down and get it to as many people as you can. So that's kind of what that exercise is, and very quickly, for instance the line from Union Station out the B&O Railroad was a natural, getting to Union Station was important in

the first place because you have commuter rail lines coming in and you know you're going to continue to have commuter lines, and you probably won't expand them.

And in fact, that has happened. So you kind of have that as a given point, and there's a right of way running right out there that was more than they needed, and you didn't have to break up the communities any more than they already were. On the other hand, it wasn't all that great. There were a lot of places along there that didn't have very many people. In fact, there's almost an inverse relationship between railroads and places you want to be.

ZS: Kind of the same thing with median strips of freeways, right? Freeways tend to go through undeveloped areas so that you wouldn't tear down people's homes, and then if you build out the median strip, well, there's no one there.

TD: Exactly, and not only that, you got to walk a hundred feet to get to it even if there was something there. But that's a cost of trade off. If people get mad and say why didn't you build something right into Georgetown? Well, that's a complicated story in its own right.

ZS: I'd like to hear that story, if you were involved in that whole dispute.

TD: Let me get to it in a minute, but the generic problem of how you plan transportation you're beginning to see. That became a line that did hit some important – it went through Silver Spring, for one thing. That was a good place. And you could build it cheap. You

got a lot of miles until Rockville and Germantown, and the whole engine of economic growth that we talked about, all that potential, well, that kind of became a fixed thing.

What do you do when you come into town? What you can do here, you do here, it depends on what other lines you're bringing in. So you begin to develop alternatives. You get maybe four or five, six, seven alternative systems and pour them into a computer, see what they do, look at the numbers. And what it's going to cost to operate it? Then you start thinking about operational considerations. If you hook this line that has 30,000 people an hour – well, that's not realistic – let's say 15- to 20,000 people an hour coming in here, and then your routing, you tie it to a line going out the other side that's only carrying 5- or 10,000, well then you run a lot of empty trains out there. You better tie it in some way to this one that has an equal amount, so you change the routing in the center. So it's cuts and tries and testing of alternatives is what that's all about. Does that give you kind of sense?

ZS: It does. I hadn't understood, because originally the Connecticut Avenue Line, now the Red Line, was supposed to go into Anacostia, and obviously later it came to go up to Silver Spring. And I didn't know how you decide which arm goes to which arm.

TD: Well, that's one of the reasons, one of the ways.

ZS: So I guess at some point the numbers suggested the Anacostia Line would be a better balance for the Connecticut Avenue Line.

TD: Yeah, and it might have had to do with phasing, too. At some point you know those are your first priorities, build this and this line. Well, if you're not going to build this one for fifteen years later, well gee, maybe it would be nice to tie those two together early, and some of that might have had something to do with it.

See, those final decisions were made by LAMATA after NCTA. In fact, the plan that NCTA came up with was a small part of the total system. LAMATA opened the door up. And I was involved with LAMATA then but not as an employee. I was a consultant at that time. I had a lot of contracts with them and interacted with them, but the decisions ultimately are made inside that agency.

Now, the Georgetown story is one that there's a lot of pieces to. And I hear things that don't make sense to me, and I don't know whether they're true or not. Anything like this, there's a lot of rumors and people think they know the answers to it. The airport question is another one that you hear –

ZS: Which airport?

TD: National Airport, the way it came in there, although ultimately it's worked out very nicely. They built a new airport around the city. But if you look at the map it's tough to – (break in audio).

In any event, the question of you know you want to service it, and you know you want to get to the Pentagon, and you know you want to get to the airport. There's some fixed places you want to get to, and if the going is difficult to get under the river and get back up to this point – in fact, this isn't the way. I guess it is the way. It's very difficult to get a tunnel to get a tunnel to go down here and serve Georgetown and get it turned, because see, you want it to stay under streets. Engineering wise, you get under buildings, you get into all kinds of problems with (indiscernible 25:54-26:05 - significant audio deterioration), so you like to stay under streets as much as you can. You can't always do it, but you try to do that as much as possible.

To do that is extremely difficult. To come down here and make a turn and get under that river and get back close to that route and close to the surface here, although that's a pretty deep station the way it is, and for the same reason, had to get under the river here and get out. So it was a hard thing to do, and I believe that the Georgetown merchants, knowing that digging up all their streets and all that, the trauma that goes with that, they weren't all that enthusiastic about it anyway.

So the way it ended up is if we didn't do it – and I'm sure there were discussions between Darwin and Rosenthal and people like that, and even with LAMATA in later years and those people there that I wasn't a part of. But I know physically, when they were planning it, it's not easy to do, and that's one of the (indiscernible 26:56-27:09).

ZS: (indiscernible 26:59)

TD: Well yeah, we try to save everything we can. Again, you're planning to go many years on, and that was certainly a very concentrated development area there.

[Note: significant audio deterioration 27:21 to 27:38]

ZS: Now, were there other political factors either pulling or pushing? That is, if you look at a lot of the plans for (indiscernible 27:51). They're all going to serve the B Street parking center. And then they all serve Connecticut Avenue up to Cleveland Park, which almost looks like a response to the Northwest Freeway opponents. That is, we know the places we have to serve, and one of the places we have to serve is Connecticut Avenue because that's where the squeaky wheels are we need to serve.

TD: I know I was there. In fact, by the time (indiscernible 28:28) to the '62 plan, at that time the agency is fully staffed out, Darwin and (indiscernible 28:38) many more, but we had a director of planning who I believe was Goldenthal, and we had a director of finance and we had a director of engineering, and I don't know what else. And Goldenthal had Bob Keith working for him, and he had a bunch of economists and he had trucking experts and all kinds of consultants. (indiscernible 29:03-29:12) after the '62 planning scheme everybody was interested in it and all that but not much happened. And this is typical of these big projects (indiscernible 29:23).

So Congress, it was (indiscernible 29:29) and some committee people, I don't know which committee it was, there were some big powerful people in the House, and less the Senate, but Alan (indiscernible 29:42) that kind of told the agency in one way or another to go back to the drawing board, it was too big a bite for them, to do an abbreviated system.

Well, by this time Goldenthal, the agency didn't fully (indiscernible 29:58) were getting along as well, though I'm not sure about that. Do you know anything (indiscernible 30:11-30:16). In any event, he left and Bob Keith became the director of planning. And then Bob Keith left, so I'm the new director of planning, at least on an acting basis for quite a time during this time, as I recall, (indiscernible 30:39) Keith's abbreviated systems and trying to (indiscernible 30:43) Congress in the best way.

My impression and my belief would be that certainly we hadn't had any pressure on us to try to put things where they were going to kill a freeway. That was a separate fight at that point. At that point our main focus was trying to get a system that looked like it did as much as it could for as little money. Now, we were trying to do that before, but we'd been told now too much money. So now we had a new anchor in the ground you had to build around, and that anchor was some judgment, I don't know if they gave us a number, but we had to have a substantially reduced cost.

Now, where can we get the most mileage, not necessarily literal mileage, but the most metaphorical mileage out of this much money? And you go where the people are, and

Connecticut Avenue is one of the highest density areas around, not to mention the fact that politically you don't want to go – I don't know that we ever verbalized this, but my guess is that probably if you look at the transit maps, the transit ridership of D.C. transit, probably the heaviest were probably Anacostia and places like that.

But realistically, you're not going to serve all those places and not serve the people that have got the control thing. So Connecticut Avenue met both of those criteria. It was a heavy bus line, it had a high density, it had shopping, it had everything and so naturally you're going to serve that, and then you try to do the best you can with other lines. As I recall, we did a lot with commuter railroads then, too, because they didn't cost a whole lot.

ZS: To step back a moment, Stanley Forsythe had this idea of a loop to serve the downtown, that trains would come in from one arm loop around the downtown and then go out the same arm, as I understand it.

TD: It's like Chicago. That's where he came from.

ZS: So that was based on the Chicago system. Did this make any sense? I've found lots of documents saying that this was a terrible idea, few really supporting it, and yet it seems to have occupied the agency for several months.

TD: Yeah, that was a dispute; I don't know that we ever tested it in the sense of putting it in the computer, but that was a debate. The agency was populated substantially with people that really had never run a transit system, and that was one of the things, if anybody wanted to attack them on, and so bringing in Stan as somebody that had real transit operating experience kind of helped offset that somewhat. Stan initially came in – he wasn't an administrator was he? Didn't he come in just as a consultant or something?

ZS: No, I think he was head of engineering from very early on, after Stolzenbach, but one of Stolzenbach's first hires. Then I think it might have been just to get that kind of prestige, because Chicago had a –

TD: You think Darwin brought in Stan, but when we brought him in he was just a consultant, wasn't he? I always used to play golf with Stan down on the Hains Point, and he was my boss, but I can't remember he occupied. But Stan, in any event, came from Chicago, and they have a loop system and he thought it was a good idea and so he was pushing for that. But one of the problems you had with it is theirs was elevated, and you're not going to build an elevated system in downtown Washington and so you got to put it underground. Well, another thing about the one in Chicago, it's old and it did not have any great separation so every train that came in had to cross – you got two-track lines, one in each direction going in this loop. If you think about it, you bring in a line, a double-track line coming in the side, you got one hell of a switch pattern going on there where trains are interfering with each other, and so it reduces your capacity substantially.

If you start to grade separate them, you'd get unbelievable things, and underground you can forget it. That's what we've got in Rosslyn now, an underground grade separated, in which you're taking one line and splitting into two branches. We have several of those, but they are expensive things.

The Chicago loop was built in the days when people didn't have any alternatives. You didn't have to worry about speed so much and all that. Mainly, you were trying to get people off the surface so that streets wouldn't be so congested, but they were going to ride it no matter what because there were no alternatives.

Well, this situation is not there. We were having to fight speed and try to make something reasonably competitive with cars. And so, in my judgment, it wasn't a feasible alternative, but I think that's where that came from.

ZS: He was also proposing, if I understand it, at some point some sort of hybrid vehicles that would run on rails and then become buses, or a bus subway over these areas, exotic sort of intermediate technologies.

TD: Well, there were a lot of alternatives proposed. Rail transit, we looked at a lot of alternatives, monorails, Disney was doing their monorail thing, and even today there's many people out there with schemes. In my role at the Transportation Research Board there was never a year passed someone didn't come in with a scheme that he believed in

passionately and was devoting his life to, and believed that the reason that people didn't build his scheme is because of some big conspiracy somewhere.

And given that we were building the first new rail transit system other than BART in North America, we were besieged with these, and people would go to Congress and say they won't consider my scheme. Well, they said that we'd have to consider it, so we looked at a lot of that sort of thing. And I spent a fair amount of time in my whole early career, every time you'd go to a new city they'd have to go through the same routine.

So yes, we looked at monorails, and I can give you the full tutorial on each one of them if you want, why they don't make sense. Bus ways do make sense in some situations, and Seattle's got an underground bus way that works pretty well. Obviously you bring in all these buses on freeways, the freeways, many of them are going to be built, high speed getting there, but you can't do anything with them to get into the city, you go into a tunnel and you have stations and all that stuff. They're tougher because it requires more lanes to get the same number of people, and the stations have to be ventilated, and you have all those kinds of problems. But people don't like buses, and that's why you build a lot of these light rail schemes now. They don't do a lot that buses would do, but people don't like buses.

ZS: I see in my notes that in 1962 that's at least one of the ideas that were proposed, they asked you to say well, what if we (indiscernible 38:02) with the buses? I think Rannells was asking you to outline that, and one of the things he came up –

TD: Who did?

ZS: John Rannells. It's not clear from the memo whether this was something that they were seriously considering, or whether it was something to be dismissed, like the monorail where we just have to get this out of the way.

TD: Darwin wanted to build rail transit. All this was just to dismiss it. But on the other hand, you couldn't dismiss it in some cases without a serious look. This is one of the big fights, as I recall, when I was transit planning, Darwin and his commission to study a bus ways by Wilbur Smith & Associates, and Wilbur came in with his report. And it had been commissioned before I had the job, but then it came in while I was there and I was given the job of trying to shoot down Wilbur's study, because Wilbur showed that bus ways made a lot of sense.

It wasn't too hard to do, because Wilbur's scheme was you bring these buses in, and it's true that it's cheaper because you can run on the freeways, you don't have to build all that rail stuff out there, and buses are cheaper to operate than rails. Despite all the arguments about you can train them up and one operator drives three cars or five cars or whatever, and therefore one operator carries more people than one driver; that's child's play in terms of cost compared to the cost of maintaining all that infrastructure and signal system and electrical system and right of way and all that stuff.

But Wilbur's scheme was saying look, you can carry this many people, and you put them into tunnels – I've forgotten how he handled them through the center some way – and as the traffic builds up, then you can shift over to rail, because buses won't carry as many people if you get the loads. The rail system with ten-car trains has more capacity than a bus lane. But there was a serious flaw in that thing. I wish we had the problem of starting running the buses in here and then traffic builds up so heavy you can't carry them and then you shift over. That's not real life. In fact, you struggle to get the ridership and building up to where you're going to have more capacity than can handle a bus rarely happens. The problem is getting a service level high enough to attract the people in the first place.

And besides that, if you have that problem where you have so much people you can't carry it on the buses, what are you going to do during the five years it takes to build the thing? Are you going to stop them all? You can't do that. So it was an impractical scheme and I had to do battle with Wilbur. It was a tough thing. I remember the fellow by the name of Herb Levinson, and it's interesting, I'm just corresponding with him just now. I'm writing a paper.

ZS: He's in Connecticut.

TD: He's in Connecticut. He was working for Wilbur, a very brilliant man, and he and I did battle and he had his instructions from Wilbur and I had mine from Darwin, and we'd shoot each other down. And then we couldn't resolve it and we'd pull in Darwin, and

Darwin would say well, you tell Wilbur this, and so Herb would go back and tell Wilbur, Wilbur would come back, and we got to be a message chain going back and forth.

Wilbur at one point threatened Darwin that he was going to back out. In fact, he dictated a letter in which he said he was sorry that he couldn't change his numbers to fit Darwin's concepts, and that therefore he was retiring from the project and that would be the last work he would on it. Well, of course a letter like that becoming public would be (indiscernible 41:56), so Darwin had to find some accommodation to that.

But that was way after he had proposed the rail system. This project had come in probably in '63 or '64 or something like that, but it was long before they'd agreed to building a rail system, too, so the issue was still hanging out there.

ZS: Do you have a sense of why Stolzenbach was so committed to rail?

TD: Well, I think he believed that rail systems were more attractive to people and that if you get the buses – he just didn't believe that buses would work as well, and I've told you, I just pointed out there were some flaws in this concept. I think you could have done something with buses, but I don't think it would have been, in a case like Washington, it's hard for me to imagine a system of buses that would have done what Metro has done.

ZS: One of the things, just reading the proposals, that strikes me is that to have buses underground you need to vent them, and that the simplest way to do that would be to run

them just underneath the surface and basically have all this diesel exhaust coming up through the streets of Washington.

TD: Well, you could have had vent stacks and stuff like that. But you couldn't have had the monumental stations, the quiet, all the ambiance that goes with what we have here. See, that's not a battle of numbers.

ZS: Right, but it got fought as a battle of numbers. That's almost the thing I'm struggling with here is that they have these beliefs, that Stolzenbach believed that it had to be an attractive system, it had to be something that would pull people out of their cars, that would be nicer than driving your car. And he would say that out front, say that to Congress, but then at the same time he has to justify it in the language of numbers. He has to make the argument in both ways, and you were the person who had to do that for him.

TD: Well, part of it. I wouldn't have to do the cost estimates, because the numbers partly were cost and the question is can you carry more riders for less cost, and the rider part was mine and the cost was somebody else's. But then the subjective aspects were Darwin's, and at the end of the day those kinds of arguments with the numbers are not compelling one way or the other. You can make a case that in some cases the lines, they could build some of them with buses, and maybe you wouldn't have built some of the lines that you did in some corridors. You would have used the freeways and put some

bus stations on freeways, and then run them into tunnels connected with the rail or something like that.

Right now, the Dulles access road is a perfect example. I mean, you can run an express bus at sixty miles an hour out that thing right now and connect with the Metro. Now, what are you going to do running a light rail out there? It's not going to average sixty miles an hour. It's going to be slower. There's no way you can average sixty miles an hour and stop at these stations along the way. But they're still likely to spend half a billion dollars building a light rail line. Now, the numbers can't justify that, and I'm not sure anything can justify that, to tell you the truth.

But there's a romance to rails. They're quieter and they look slicker, and people don't associate them with buses, and they're fixed, they're there. You know they're going to be there. One thing is the commitment to run them, after you get them there. You spent so much money you have to run them. So those are not numbers, but you're right, there is belief that you have to make the case because the argument is soft and fuzzy. Who says that buses – that people won't ride them? That's what he says, but somebody else might say something else.

And should you spend an extra half million for that? Well, I don't know. So sure, you try to justify the numbers and I don't think that should be surprising. I think that's true of the Social Security debate and many other debates, Medicare or whatever.

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ZS: Let's get into the issue of station design. One question I have, I have a lot of paper by John Insco Williams, just because he's interesting to me in a couple ways.

TD: Where did you get these memos out of?

ZS: These are thing Stolzenbach collected and they're now at George Washington University. And Pfanstiehl deposited some papers there, and there are some other collections, so GW is the best place.

TD: John Williams worked for me for a while.

ZS: Who brought him on board? Because he shows up earlier, in the 1959 hearings, saying we've got to do it the way Helsinki and Stockholm did it.

TD: I didn't know him then, but I don't know who hired him. Maybe Bob Keith may have hired him, I don't know.

ZS: He had had experience in Stockholm, is that --?

TD: I don't know. He may have. John subsequently went to Boston, and I think he may have stayed in Boston.

ZS: So Williams worked for you.

TD: Yeah, after I assumed the role of director of planning he was part of my staff.

ZS: Was he particularly senior? I just don't know how much of the influence I attribute to him is an artifact that he kept his papers and other people threw theirs away, but I've got all these maps that he drew that seem to be leading up to the –

TD: I think he was a technician, but I think he was a respected because he'd had some experience somewhere and would propose all kinds of views and stuff. He wasn't just a numbers man. In fact, he wasn't too much involved in the numbers. He was more interested in how it fits into the community and that sort of thing, so he would come up with proposals. Bob Keith would be a good person to get more insight. You almost got to talk to Bob, because the '59 study – he kind of has a history all through and could tell you more about John.

But I don't know that John had – of course people's power changed. My power changed as I went up and people disappeared and I was left, and John somewhat I think had a similar experience. But he never was in a senior management role or decision making role, but he was more of a technical expert and well-respected.

ZS: One thing that shows up in some of his sketches is the notion that where you're going to have transfers they will be at right angles, and that of course feeds into the way Metro

looks now. I mean, that's part of the image of Metro is Metro Center and L'Enfant Plaza is these grand cross vaults, but there are other ways of doing transfers, as I understand it. You could have had them –

TD: Well, like what? What do you have in mind? I mean, it's under the streets, and the streets tend to be at right angles.

ZS: I just had seen some other sketches with him for coming in at oblique angles.

TD: Well, like at Rosslyn, they come in at angles. If you think about it, the physical engineering aspects of it where you've got to have two sets of tunnels if you're underground, and you are if you're talking about downtown connections, the map of structure, that you've got both levels, is increased to the extent you do this. You see why that would be? And it's minimized when it's in this position.

ZS: It's minimized when it's at right angles.

TD: Right, because only that portion where the two are right on top of one another do you have to – out here it's a single tunnel. Out here's a single tunnel, out here's a single. Do it like this, and it's all this double vaulted thing with structures all in it. It's complicated to build, costly. But also I think it's about the fact of the street system. The street system tends to be at right angles.

There is, by the way, with respect to the stations, I thought you were going to say not get them on a curve. We had a lot of trouble trying to get the stations where you weren't on a curve, because the temptation a lot of times is to put them on curves. If you build on curves you get this platform, a car that's straight and has a straight line and ends, it's eighty-five feet long, and you got bearers at two or three points along the way that cannot be uniform spacing with this edge of the platform, you're going to have big gaps at places, and you don't like that for safety reasons. So trying to get the stations on straight and tangent sections was one of the constraints.

Now, they do that in some stations. You go to Boston and Chicago and places, they do that. And it's not that you can't do it, but the cars tend to be shorter in those things. You want a long car. One of the reasons you want a long car is because you get more square feet of carrying area, more seats, if you will, for the tare weight, for the weight of the car. The longer the car, the more people you carry, and you've still got the same number of wheels, same number of motors; it's just cheaper to do it that way.

ZS: When was that decision made to put in the eighty-five foot car?

TD: Well, I think it was probably, my guess is that was probably proposed early on, you know, the exact dimensions. They did a lot of studies and stuff playing around with it. My guess is that was an early proposal and it never varied. I'm not certain of that, but that would be my guess.

The (indiscernible 06:45) cost specs weren't determined until LAMATA came into position. There's a rule actually. We had assumptions about the car length and we had some tentative specs, but the real specs were not finally down until LAMATA started building the system.

ZS: After the November report was presented, for most of 1963 the agency was working on various, much smaller alternatives.

TD: I think that's correct.

ZS: That is, a couple dozen.

TD: And answering questions of its critics, people who were sniping. There were some people that loved it, some people questioned it. They wanted to know, why did you do this? And there were people that suddenly woke up, my neighborhood's not saved, how come you guys did this, and not paying attention or whatever. This always happens. Why are you serving me, and I don't like my station here, I want it up here, there was all that stuff going on, and that continues right on until you start building.

ZS: The plans are, there's the 1952 (indiscernible 07:51) plan. Then the next published plan is sort of the bobtail system which somewhat resembles but not very much resembles the alternatives that were generated within the agency. I'm not sure I understand the

relationship between the various alternatives that the agency was working on and the bobtail system that went into the bill in December of 1963.

TD: Well, our agency created all those. The same agency did. No one else created them. And I don't remember the details. I mean, I was the one that was involved as much as anybody I guess, and I'm surprised that you actually looked at the map. The bobtail system wasn't a component of the November '62 system?

ZS: I need to do some more mapping.

TD: There may have been changes.

ZS: Basically, the bobtail system, as I recall, is a subset of the 1962 system except for the extension across the Anacostia towards what was then D.C. Stadium, which is now RFK. And there were certainly proposals to, in the various MCTA 1963 alternatives to do that line out to the stadium. So maybe I'm mistaken that the bobtail was just one of the proposals, but I'm not quite sure where that came from. It sort of appears on the scene, and you had said earlier that you were trying to do the most that you could with a small amount of money, and obviously putting in the B&O line was, as you say, natural. Do you remember how those decisions were made to, say, serve the D.C. Stadium and not serve further out into Virginia?

TD: I don't explicitly, but I would believe that it was done on the basis that I told you. The combination of you learn things, you put out a plan, you discover you've got to have feedback, you get support here, you don't get support there, and then you learn something physically you didn't know about before, you're continuing to do studies all the time. The 1962 report had enormous time pressures on it, the demand to get that thing out.

And there's always a temptation to continue to study when you keep hearing new things, but we had to get it out and we had a lot of studies in motion that weren't completed at the time that plan came out, so those things were continuing and you learned from those. You learned feedback from the people. Then you have a new mandate. You got a different set of money. You still want to be extendable into the big system, but you want to start with something that will operate by itself. Well, that's a little different maybe than what exactly you would have done otherwise. So you have a new set of constraints that you're trying to meet, and I think that's the way it came.

ZS: Do you recall anything particular that the station that was proposed at the Capitol itself just became very controversial, because at one point I guess in the 1962 proposal this was going to be a transfer station, and anchor station at the Capitol. And then after Stolzenbach left this was almost immediately scrapped because not that many people work at the Capitol itself. They work in the House or Senate office buildings. And also the architecture of the Capitol is not particularly friendly. Do you recall that controversy?

TD: Yeah, I remember that was a controversy and all those things were true. And again, it gets resolved within all the other constraints that are imposed upon you at the time. But I don't know a lot of details about that. I know the architecture of the Capitol is big trouble. I know the White House, when we were coming down across Lafayette Square and trying to diagonal into the White House the Secret Service was really nervous about getting too close to the White House because of terrorist potential and all that kind of stuff.

ZS: And you were, if I understand the organizational charts correctly, one of the point people to deal with all these other agencies, particularly you and Rannells were the liaisons to the Joint Transportation Committee, to the Washington Metropolitan Transit Commission, to the highway departments, to the MCPC.

TD: At later points I was. Bob Keith was the guy probably even more so before November 1962.

ZS: And then afterwards he –

TD: And then I would go as needs, too, but Bob was my boss and he knew all the people too, and I was busy with the numbers. I had my own groups that I was working with, primarily the highway department and the local planning agency to make sure we had common numbers and numbers they agreed to that fed into the scheme, so I had my set of liaisons, too.

But when it came to the question of where do you want your station, or what are the planning issues about coming up here versus up there and liaising with the planning agency. Before November 1962, Bob did a lot of that along with Rannells, and then when they left it fell to me for a lot of it.

ZS: So, how long were you at the NCTA?

TD: I'm trying to remember. I think it was 1964. I think it was probably June of '64, would be my best guess. Let's see, this will help me get dates, because this was something that was given to me when I left the consulting business and it was, yeah, 1964. I was president of this consulting firm, and additionally I was a vice president; Alan Voorhees was the president. He went to academia and I became president, but I went from NCTA to this consulting firm in 1964 so it was probably June of 1964, and that would have meant I was there from December of 1960 to June of '64.

ZS: The award you've just shown me, is from Voorhees, but it's got a married pair of Metro cards on it, which suggests that you were quite active.

TD: Yeah, well because I'd done transit. I came into the firm; this was new fledgling firm that had just started. In fact, I was one of their early clients, and they did some of the studies. We were looking at trying to find ways we were going make the end loop. One of the theories was we would build a surface street, kind of (indiscernible 15:13) type

surface street instead of a freeway, and that limited access on the northern part of the loop, and we did studies of whether that was feasible or not and Voorhees was one of the firms that –

ZS: Where was this? This would be downtown?

TD: Yeah, downtown, in a loop. As you were talking about, if you've got the main loop, well, part of that loop was built. It was there and we could look at it. But there was the northern segment that we never could get agreement on and we wanted to eliminate it. See, this is an example. You say well, (indiscernible 15:48) about me. He does not want to build. The numbers show you could use it. If the criteria is will people use it, yeah, they'll use it. But if you don't want to build it, then you can't just say the hell with it, I'm not going to build it. You say well, we got to find out some other way.

So, we were looking at a surface street, a boulevard, maybe on Florida Avenue, that you would widen and fix up better and assign the traffic to that, and physically how you would do that and that sort of thing, so we hired Voorhees to do that. And we hired a couple other little projects so I got to know them. And I'd known Al Voorhees even before. I knew him in Nashville. That was one of the people I met when I came to Washington, because he was advancing these new technologies and techniques for planning.

So he hired me into this new – I was the fifth partner that bought part of the stock and started out, and we only had about fifteen people in the firm and it blew up. We ended up with 350 people at one point working all around the world, and I was the transit guy. The other guys were more highway oriented and stuff like that, and we did a lot of transit. In fact, got a lot of contracts with LAMATA, but when I went over there in the studies that had to do with buying out the local bus companies, because at that point all these companies still operated, D. C. Transit and there are two Virginia companies that were in operation, and we needed to buy them out in order to have an integrated system.

Because they were fighting the system, they didn't want the system at all. So, we had to do the studies of what you'd do with them and how you'd reorient the lines and all that kind of stuff, and cost containment to make estimates because LAMATA was then in being and they were trying to make final adjustments to the system and so we did a lot of work for them on that, so I had a lot of contracts initially with LAMATA and we began to do it elsewhere, Boston and San Francisco, and St. Louis and all, and foreign countries. So that's why when it came time for me to go, I had been the transit guru in the company and so I guess that's why they did that, metaphorically keeping them on the track.

ZS: Was your move to transit by choice? I'm just trying to go back to sort of engineering cultures, highways versus transit, and not always being on friendly terms. Obviously you were not blacklisted from the profession. You became executive director of the TRB, well respected, you won the Pyke Johnson Award of all things, named after one of the

heads of the highway lobby; did you ever get any grief from highway engineers for being a transit man?

TD: Not as long as you were not – there are extremists in all sides and there were people that thought I was – I mean, I remember going over to speak to the Road Gang. Do you know what the Road Gang is? It still exists. It's an association, a kind of a loose but nevertheless a formal association. It is truly the nearest approximation of what you'd call a highway lobby in Washington. That national associations, whether they be the Association of General Contractors, the Asphalt Paving Association, the sand and granite people, the asphalt producers, the association of concrete makers or cement makers; there's people for the highway administration, highway departments locally are all members of this thing. And there are transit people in it as well but at that time it was almost all highways.

The man that just died here recently was the head of the Bureau of Public Roads at the time. He's known as the father of the interstate highway system. They named the Turner-Fairbank Highway Research lab out in Langley for him and I'm blanking on his first name.

ZS: Frank?

TD: Frank Turner. Frank Turner was president of the Road Gang and he asked me to come over and speak when I was still director of planning for Metro. I felt some hostility going

in there. They had done battle and Frank was blasting, he thought building the Metro was a bunch of nonsense and thought should build them with buses and all that kind of stuff, and so I went in to speak to them and I did it with a little of fear and trepidation but they were all very courteous and there was never any open hostility.

And I think the fact that – as a matter of fact, it was just the opposite. The fact that I had been out there on the point on the transit thing, because I think people, the idea that we'd gone to excess in trying to build and just wiped out cities and build highways everywhere you turn was widely accepted. So, as a native pioneer in that, I was in fact exalted if anything over that issue.

When things began to be more balanced and we began to get money for transit, federal money for transit as well, and states began to get engaged in the transit thing, and as that all happened I was the guy that knew how to do this, you know, trying to integrate and plan the thing. So it was just the opposite I think.

ZS: Do you have any sense of, looking back, where would you place the NCTA and the City of Washington in that whole movement toward having a more flexible national transportation policy?

TD: Well, I was a pioneer, without a doubt. Darwin I don't think was the best spokesman for it because he was kind of a caustic curmudgeon-like figure and did things that drew the fire. I remember his Churchillian position. I don't whether you ever heard that, but when

they were talking about eliminating the agency and creating a new agency after the November '62 plan had been produced, he said, "I did not become administrator of the NCTA to preside over its demise," or something, and the newspapers really keyed in.

But I think he was one of the very visible examples very early on of resistance to excessive building in big cities, that Embarcadero fight and, I don't know, one or two others, but being watched and so visible, he was acting like a lightning rod for the whole business.

ZS: It certainly seems that way, but I just don't have that comparative perspective. Since you bring up San Francisco, were you in touch with BART as all this was being planned, the sort of sibling systems?

TD: Well, but they had a head start on us in terms of construction. I don't remember in planning, I guess, whether they were ahead of us. I guess they were, but they didn't have the – maybe they were a little ahead of us all the way through. But it was obvious San Francisco did not, and I don't think still has nearly as big a central area as Washington. They got higher buildings, but it's not as intense, more broadly speaking.

Their system necessarily had to be more like a new advanced commuter railroad that runs way out and at higher speeds. I think they got up to eighty miles an hour and more distance between the stations. It was less an urban system. Sure, it had some physical characteristics that were different. They were building more as big a system at the outset,

although for a while it did not look like we were going to build it too big either. But yeah, they were in some way kind of pushing the barriers down. They weren't in any highway business. Their Embarcadero fight was not lead by BART. They at no point were in any highway business. I believe that's fair to say.

ZS: So that's the difference, is that in some ways NCTA took up the cause that had been started by some neighborhood activists.

TD: Yes. And I think they were created to do that. I believed, after looking at the legislation, maybe they had looked at it, but they had a mandate to plan both highways and trains, didn't they?

ZS: There is some language to that effect, but when Stolzenbach actually started doing it then the D. C. Highway Department and everyone else said that's not your role. And so in (indiscernible 24:26) the NCTA didn't do that, and we were into McCarter.

TD: The government didn't do anything.

ZS: And when McCarter comes in, he retreats and says, "Oh, we're just going to build a railroad and we won't bother anyone." That's their decision, and then there's the implementation, and it seems to me that Stolzenbach, he's a fascinating figure, he had trouble negotiating with people enough to get something built, but when it came to stopping something, he was really good at that.

TD: Yeah, it's far easier to stop things than to build things.

ZS: (indiscernible 25:00) said we got to stop the highway, in the 1960s.

TD: Well, no, perhaps not in 1960, but at least it hadn't been done, they hadn't been trying to build so many roads until 1960. The interstate system exists; there were lots of them to stop. It is easier to stop things, in our society particularly but I think anywhere it's always easier to dump things than it is to do something. I find it easier, and a lot nobler to stop something than to do something. But any way you may think about that, I think you're on to something. I think Darwin became the center of gravity of that outfit, that whole movement for Washington, and therefore to some extent nationally, and I think he did scare the highway people to death.

And they looked at me askance, but because of my liaison and working joint numbers so that nobody was finding my numbers so bad, they were find with the interpretation of the numbers, and they'd love to have attacked the numbers. And that was one of the great things. We did a good thing there, because at least the fight was about what it should have been, the subjective aspects are the numbers. The values part of it as well as the numbers, and I don't regret that. I look at that as one of the real achievements through that period.

And so I think that's why I never did get caught up in the really vitriolic. I got close to it and got in some meetings that were pretty uncomfortable, but no one ever branded me as a nut case. They branded Darwin as a fruitcake. Tried to, but he had his own constituency. But I think you're right. A guy that could tell you a lot about that is a man by the name of Peter Craig that lives out there near you.

ZS: I've talked to him. He was very helpful.

TD: When did you talk to him?

ZS: A few weeks ago.

TD: Who put you on to him?

ZS: Well, actually the Federal City Council, not Federal City Council, I'm sorry, the Committee of One Hundred recently put out a sort of commemorative report about the Three Sisters fight, saying this is the best thing we've ever done, and he contributed to that. And so I knew he was around so I looked him up and he's in the same place that he was forty years ago when he started protesting the Northwest Freeway.

TD: Give me a thumbnail of what he told you, because I still see Peter once in a while and he was – let me just tell you this; that I ran into him early on. He was a lawyer with the

Southern Railroad, and I guess he took up the cause for reasons that aren't clear to me even yet. He just believed in it, I guess, and maybe working for a railroad he believed –

ZS: That's a slur from the highway people. He didn't start working for the railroad until long after he had been –

TD: Who was he working for, then?

ZS: He was working with Covington & Burling, which was the same firm that Ed Seeger had worked for, which was the same firm that Tom Farmer worked for, which was – I think there's another Covington & Burling lawyer, Charles Horsky. So there's this nest of people at Covington & Burling, and then there's this nest of people at Cleveland Park, including Libby Rowe, left from Cleveland Park, and Tom Farmer was in Cleveland Park and Peter Craig was in Cleveland.

So it's this very small group of people all who knew each other. You could have fit them around a table, and they were the people who came to Northwest Freeway and having done that, then they went on and they joined up with Sam Abbott from –

TD: Well, was it the Northwest Freeway that got him stirred up in the first place?

ZS: Yes, it went through his house.

TD: Oh, okay.

ZS: If you looked at it, it was going to come through and it was going to go down Timmons Street and Cleveland Park is lovely. It had nothing to do with the railroads. It was going to through his house. That's what the (indiscernible 28:42) Commissioner of Highways said.

TD: I didn't know who he worked for at the time, and I know he ultimately worked for the Southern Railroad. I thought he did at the time, but it didn't matter. I don't think that was the reason he was doing it. But the thing that I remember about him was that here was a guy that was coming in kind of from left field, and everybody else accepted this complicated computer-based set of numbers we were generating as something that was sacred. They wouldn't attack them much, because both sides were involved and we did the best job we could.

Well Peter was a lawyer, and he would do some work, and he was big into the numbers and occasionally he would find an inconsistency. And oh, he would go out there big time with that. But I came to respect him for that because he was one of the few people that really had a handle on what we were doing with the numbers. Not that we were trying to – we had both sides there at the table doing the numbers, so there was no reason for anybody to try to fudge the numbers, and I don't know if he thought we were trying to fudge the numbers. I think he ended up with a measure of respect for us, too. My sense was he did. I ended up with him, and when I see him today he's very friendly and all

that. But I wondered what his take would be on it, so that's why I was asking. And he is going to tell you about this nest of people that was trying to –

ZS: I knew the names, but then he said then we had Tom Farmer at Covington & Burling and then things started to click, and then what I realized was that he was offered – Stolzenbach wanted him as general counsel for NCTA and he said no, he wanted to stay in private practice. But what it made me realize was that the people who were on the outside, like Peter Craig, and the people on the inside like Ed Seeger were the same people, which was not true under Eisenhower. Under the Eisenhower administration you've got –

(indiscernible 30:34-30:37 - speaking at once)

ZS: Right. Well, you've got the D. C. Highway Department, and they're essentially the Corps of Engineers which has nothing to do with the City of Washington, it's this federal agency, then you've got Harland Bartholomew who lives in St. Louis, even if he's chairman of the NCPC, and he'd be using this Nashville perspective, and you've got all Cleveland Park types yelling their heads off but they don't even have the vote of the District residents.

Then Kennedy comes in and he appoints Stolzenbach from Montgomery County, he appoints Quenstedt from Virginia, he appoints, or indirectly, Seeger and Farmer and

Horsky and Rowe and all these people who were the protestors. They're suddenly the officials. That's what you call revolution.

TD: And I don't know how you'd look at that, but then you could look at that as – I mean, you're kind of putting a perspective on it. I kind of just knew all these people too and didn't know how they got in that position. Yeah, that's an interesting and I think realistic perspective, but you could argue that it's just a bunch of (indiscernible 31:38) people.

ZS: Yeah, it started out that way, unquestionably, and specifically in Cleveland Park.

TD: The (indiscernible 31:47) people.

ZS: Yes, (indiscernible 31:48) people. That's why I was asking about the Connecticut Avenue line, but I think in the end it becomes something greater where they say not only do we not want you to build this highway, we want you to build rapid transit. And that's not a (indiscernible 32:02) position when you go ahead, please build a rapid transit. That's a proposal for an alternative.

TD: Well, or you're going to take my house.

ZS: I think it – (indiscernible 32:16)

TD: I don't think you could hardly argue that's a purely philosophical objective position.

ZS: No, no, not at all, but in a democracy you're supposed to pursue your own self-interest. That's your citizen's duty. But the thing is, to contrast over someplace like New Orleans where they protest a freeway, but there's not necessarily a huge move in favor of rapid transit. And for that to happen half a decade earlier when there was hardly any new rapid transit in the country, and then you had Cleveland but that one's on an old railroad right of way. That's not (indiscernible 32:55).

For that highway protest to feed into a proposal for this multibillion dollar, what ends up a multibillion dollar technologically advanced high capacity rail system, I think that's a heck of a story. And so I have a lot of respect for Peter Craig and Darwin Stolzenbach while understanding that there were limitations.

TD: Well, I think that's a fair assessment. I mean, all those are judgments and subjective judgments, but I guess that's the kind of judgment historians have to make.

ZS: And as a district president I think the real problem was that there was a democracy. That is, if you had had an elected city council in the 1960s, they would have been a much better forum for hashing out some of these disputes rather than just people making noise and getting appointed into office.

TD: The District intrinsically conflicted because it's both of these things and it's got national interest and all that stuff. I don't know. I'm not a – well, we get off into another

philosophical discussion about how well democracy works at times, and probably if I'd been one of the forefathers in 1776 I'd have been against it.

ZS: It works, but one of the problems it has is in planning, and city planning, transportation planning is an inherently undemocratic process, and needs someone with a single vision, and also you're making decisions for people fifty years down the road.

TD: And you're cutting off some people. That's another big time, and you've got inter-jurisdictional problems. That's one of the problems, when you said if you had a D.C. city council all the problems go away, because you've got the problems of the general Maryland residents have interest in this deal, as well as the whole country, and that gets all fuzzed up. Effectively, what I'm afraid the council would have been able to do retail almost anything but not make anything happen.

ZS: What they ended up doing instead is horse trading, saying what we want, and is anyone getting into the LAMATA era. Council does have two votes in LAMATA. It says we want the Green Line, and then DC says okay, well that's fine but we want the Orange Line not just this commuter railroad out there at Pennsylvania Railroad right of way, but we want an actual rapid transit. And then Virginia says well, we want to extend the Orange Line further on. So yes, it balloons the system out, but as you said, how do say if it's healthy, if there's people –

TD: You would have never had Paris if you'd done it with the Paris City Council. You had Napoleon that was able to keep blasting the thing through. And you end up with a wonderful thing, but you'd have never got it done with a democratic process. I think you're right, transportation planning, and particularly transportation planning because it is intrinsically jurisdictional. It's a very difficult thing to do in a democracy, and we're just stymied right now and we just cannot move in this area. We're just totally at an impasse.

And this exercise that I did with the governors when this inter-county connector this year was just an example of it. And the citizen participation process does not work. I'm not fond of it because the people who are the swarming army, they were intrinsically, intensely feel strongly about it, can stop everything but they can't make anything happen, and so that's what happens, you get nothing. Although we have an example here where it did some good things, but again it was stopping things mostly.

Because there was a fair impetus to build a transit system anyway, it wasn't just these dissidents that were for it. And certainly it grew, there was an acknowledgment. All of us in the planning thought that there was an imbalance here. We've got all this money coming and we're changing the cities around, my God, we can't do anything with transit. There was a lot of people that weren't zealots that were feeling this, that there's something wrong here and it was very hard to do something about it nationally because transit was very important here and here and here and here; not everywhere. Highway was important everywhere, so that was hard to deal with incidentally.

ZS: But the people who were in the D.C. Highway Department, at least my impression of them is they seemed quite zealous. Maybe that's wrong but –

TD: About building roads?

ZS: Yeah, that they really thought that you should build all of these freeways, the inner loop, the –

TD: Well, you're talking about officials now. I was talking about citizen activists. That was my remark about zealots outside the system, in the citizen participation process. That's what I was referring to.

ZS: But when you talk about –

TD: Once you set up agencies with mandates, they are zealots.

ZS: Okay, that's an interesting distinction, and then it's not until 1962 I guess that you have a mass transit administration that has that agenda within the federal government, so that's two years after the NCTA, and that's where you get the pioneering role.

TD: Well, in 1968 they're weak, even then it's very weak, but yeah, that's right. But at the national level, that's right, you've got an advocate at the national level there and at the

state level. At least at the local level you had NCTA who was for the first time an advocate that could stand up against the highway department, and the officials of both of those agencies were not surprisingly going to each other. I was talking about the citizens, and we were talking about democracy, we were philosophizing there, and how do you, in a democracy, how do you plan?

You do it with officials, but you also do it and believe that the citizens should come in and have their input and that doesn't work very well. Sometimes it does, and sometimes it doesn't. It's more effective at stopping things than it is to getting things to happen. You pointed out an example where it made things happen, but it happened only after these people became officials, and that rarely happens.

ZS: Yeah, it's unusual. Reagan sort of did that. There are certain presidents who are more activist than others and some presidents will come in and say I really want to change things and so I'm going to bring in all these people who are protesting outside the government and give them high office. And the Kennedy administration did that, not just in Washington but in a lot of places, and the Reagan administration did that.

TD: These were philosophical people.

ZS: These were activist presidents.

TD: In the Reagan administration, as somebody who was working at the national level at that point, I had just come to TRB, it was the most philosophically pure bunch of people I've ever seen. Right down the line, everybody who was appointed was coming in and they believed government was a problem and they were just cutting left, right, and center. It was unbelievable. Not that some of it didn't deserve it. There were excesses, without a doubt, and maybe that's the way democracy has to work. You got to get zealots on one side, they fix things here and they go too far and then we'll come back. You have to be rich to be for democracy.

ZS: Do you think there are questions that I should be asking you now? I haven't read the stuff on the bus takeover yet so I don't have intelligent questions to ask about that.

TD: Well, it kind of had to happen for obvious reasons. I mean, they couldn't continue to make money, you couldn't go out and build a thing to compete with them and then, I mean, you spent all that money and you had to maximize the use of it and so you couldn't have them out there competing. Plus, they would probably go broke anyway, so we knew we had to take them over. I don't know that that was particularly controversial.

The one thing that happened I know, they began to dip. World Transit, one of its problems was that you put a few – the buses are kind of ubiquitous, they're all over the place and they run direct service to where we want to go, albeit they have to stop more often and they are subject to more traffic congestion. Rail system is not subject to those

problems but there's fewer lines, and the effect of that is that some people's service were degraded.

And I remember some specific cases out in Virginia where that AB&W Transit Company used to come in from Alexandria and provide direct service to the Pentagon and into the center of the city, and those people now had to go out of their way to get over to, people that weren't right next to the river had to get over next to the river to get the Red Line. And it ended up that it took longer to get to their destination than it did before, and the cost went up some and they were crying bloody murder.

I guess we're beginning to get a sense of where each other are. I mean, I've spent my lifetime in this thing, and I think the biggest, and I've said this many times, you can't tell after you've done it, twenty years later whether it was good or not. It's largely in your head. Now, some things that's not true. Some of the systems that have been built I think were crazy.

ZS: Miami, for example. That's always put up as the example of –

TD: Miami and I think Buffalo. I mean, I haven't looked at Buffalo lately, but as a consultant I was the partner in charge and we did a lot of the planning work for the Buffalo thing, but Buffalo was a city that was struggling and still struggles, and they lost a lot of industry and all that, to the extent it has grown it's grown out in the outer areas and the downtown is declining in population.

They had a strong congressman, Jack Kemp was one of the congressmen up there, but they wanted to do, you know, they got Buffalo and they got New York City and there's always this tension that Buffalo is the other big city in the state and they want their share of the goodies in New York State, put money into transit down in New York, well they want theirs, too. And so we ended up building a system that probably didn't do much up there, the light rail.

You go out here to the light rail extension to the Baltimore Airport, BWI and look at that system and there's hardly anybody on that system. We're doing a lot of stuff that I think if you look carefully at it, it probably makes no sense. But it did because, or I think the reason we did it is because you can't do anything else. Your activists won't let you build a highway, and maybe that's good and maybe it isn't. Regardless of the merits of that argument, if you can't do that and you've got population going up and people are more affluent, they're consuming more of everything, they're consuming more housing, they're consuming more than you can think of, they consume more transportation.

And those are all private decisions and the public officials are supposed to do something about that. And all the numbers say that it's happening, you can look at the congestion on the street, and you can forecast that it's going to get worse. Well gee, we got to do something. Well, they won't let us build a road and so you can build a transit, because people don't fight that quite as hard in most instances. In some places they do, but then

you go and it don't do much. I mean, you're saddled with all this operating cost. The State of Maryland spends more on transit today than it does on highways.

You do that and twenty times as many people on the roads as on transit. So, on the cost per person, per rider, it's twenty times the subsidy the State of Maryland funds. You can argue, look at the numbers and you can argue and it depends on whether you're talking about capital operating and all that kind of stuff, but you look at the gross numbers, and I've done them here, it's right at the margin and with the budget they're proposing it goes over and they're spending more.

Well, does that make sense? I'm not sure that makes sense. But in the case of Washington, that's a much tougher call. I mean, I personally think it does make sense to do these things with all these light rail systems that they're building, but the Boston system's different. Here you got a world class city, the Capitol city well, and it's got a huge central area, guides, buses around, we're a rich nation, you want to build a monumental city that's a symbol for everything we stand for, you had to have it. And looking back on it, you still have to have it. More money, we got to have it, and it permits an intense concentration of activities in the center of this great city, and we've got it.

But you look at it from a regional standpoint it's carrying, what is it, 10 percent or something, of all passengers, and if you take the suburban, if you take outside the District of Columbia, it's 3 percent, and you extend it further it's still going to be 3 percent,

maybe less than 3 percent. It declines every year as a percentage, and I don't see a road out of that. Our models tell me that you can put all the rail lines you want, including a Beltway line which they're talking about doing, it's just doesn't have an impact. So, it's a real struggle.

ZS: Okay, I think I'll stop the tape now.

[End of interview]